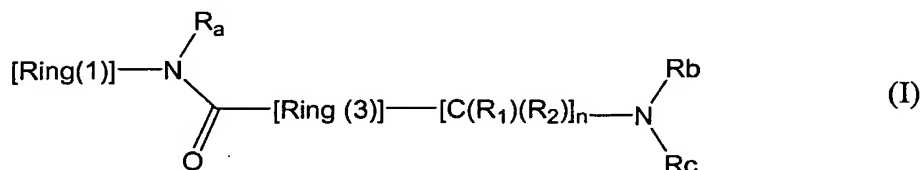


**CLAIMS:**

1. Use of a compound or a composition comprising said compound for inhibiting the activity of at least one kinase, other than ROCK kinase, *in vitro* or *in vivo*, wherein said  
 5 compound is a compound of the formula (I):



(wherein:

- 10 Ring (1) is a substituted or unsubstituted, saturated, unsaturated or aromatic 4-, 5-, 6-, 7- or 8-membered ring containing carbon atoms and at least one hydrogen-accepting heteroatom and optionally 1 or 2 further heteroatoms;

R<sub>a</sub> is a hydrogen or a linear or branched, substituted or unsubstituted C<sub>1</sub>-C<sub>6</sub> alkyl, substituted or unsubstituted C<sub>1</sub>-C<sub>6</sub> alkoxy or substituted or unsubstituted aryl;

- 15 Ring (3) is a substituted or unsubstituted, saturated, unsaturated or aromatic 4-, 5-, 6-, 7- or 8-membered ring containing carbon atoms and optionally 1 or 2 heteroatoms;

- each R<sub>1</sub> or R<sub>2</sub>, may be the same or different, and is independently selected from the group consisting of hydrogen, a substituted or unsubstituted, saturated, unsaturated or  
 20 aromatic 3-, 4-, 5-, 6-, 7- or 8- membered ring containing carbon atoms and optionally one or two heteroatoms, substituted or unsubstituted C<sub>1</sub>-C<sub>6</sub> alkyl or cyano;

n is 0, 1 or 2; and

R<sub>b</sub> and R<sub>c</sub> are such that the amino group -NR<sub>b</sub>R<sub>c</sub> is essentially in a protonated form at a pH between 5.0 – 9.0;

- 25 and wherein:

- (1) the group R<sub>a</sub>, the nitrogen atom to which group R<sub>a</sub> is bound, the carbon atom of Ring (1) to which the N-R<sub>a</sub> nitrogen atom is bound, and one carbon atom of Ring (1) adjacent to the carbon atom of Ring (1) to which the N-R<sub>a</sub> nitrogen atom is bound may form Ring (7) wherein Ring (7) is a substituted or unsubstituted, saturated, unsaturated or  
 30 aromatic 4-, 5- or 6- membered ring that contains carbon atoms, the N-R<sub>a</sub> nitrogen atom and optionally one further heteroatom chosen from oxygen, sulfur and nitrogen;

(2) where Ring (3) is a 1,4-phenylene group, one of  $R_1$  and  $R_2$ , the carbon atom to which  $R_1$  and  $R_2$  are bound and two of the carbon atoms belonging to the 1,4-phenylene group may form a substituted or unsubstituted 5-, 6-, 7- or 8- membered ring that contains carbon atoms, the nitrogen atom of the amino group  $NR_bR_c$  and optionally one further heteroatom chosen from oxygen, sulfur and nitrogen and that may be saturated or contain one double bond;

(3) where Ring (3) is a 1,4-phenylene group, one of  $R_b$  or  $R_c$ , the nitrogen atom to which  $R_b$  or  $R_c$  are bound, the carbon atom to which  $R_1$  or  $R_2$  are bound and two of the carbon atoms belonging to the 1,4-phenylene group may form a substituted or unsubstituted 5-, 6-, 7- or 8- membered ring that contains carbon atoms, the nitrogen atom of the amino group  $-NR_bR_c$  and optionally one further heteroatom chosen from oxygen, sulfur and nitrogen and that may be saturated or contain one double bond;

(4) one of  $R_b$  and  $R_c$  may, together with the nitrogen atom of the amino group  $-NR_bR_c$ , one of  $R_1$  and  $R_2$  and the carbon atom to which  $R_1$  and  $R_2$  are bound, form a substituted or unsubstituted 5-, 6-, 7- or 8- membered ring that contains carbon atoms, the nitrogen atom of the amino group  $-NR_bR_c$  and optionally one further heteroatom chosen from oxygen, sulfur and nitrogen and that may be saturated or contain one double bond; and

(5)  $R_b$ ,  $R_c$  and the nitrogen atom to which they are bound may together form a substituted or unsubstituted ring with between 3 and 10, preferably between 4 and 7, and most preferably 5 or 6 atoms in the ring (including the nitrogen atom to which both  $R_a$  and  $R_b$  are bound) so that the ring so formed consists of a nitrogen atom, carbon atoms and optionally one further heteroatom chosen from oxygen, nitrogen and sulfur; and wherein:

the distance between the at least one hydrogen-accepting heteroatom in Ring (1) and the  $N(R_a)(R_b)$  nitrogen atom, as determined using a Scatter Plot, is in the range of 11.0 to 11.8 Angstrom),

or a salt, or pro- or predrug thereof.

2. Use as claimed in claim 1 wherein:

$R_a$  is hydrogen, a linear or branched, substituted or unsubstituted  $C_1$ - $C_6$  alkyl, substituted or unsubstituted  $C_1$ - $C_6$  alkoxy or substituted or unsubstituted aryl; or the group  $R_a$ , the nitrogen atom to which group  $R_a$  is bound, the carbon atom of Ring (1) to which the  $N-R_a$  nitrogen atom is bound, and one carbon atom of Ring (1) adjacent to the

carbon atom of Ring (1) to which the N-R<sub>a</sub> nitrogen atom is bound may form Ring (7) wherein Ring (7) is a substituted or unsubstituted, saturated, unsaturated or aromatic 4-, 5- or 6- membered ring that contains carbon atoms, the N-R<sub>a</sub> nitrogen atom and optionally one further heteroatom chosen from oxygen, sulfur and nitrogen;

5            [C(R<sub>1</sub>)(R<sub>2</sub>)]<sub>n</sub>-NR<sub>a</sub>R<sub>b</sub> is an alkylene amino group, in which said amino group is a primary or secondary amino group.

3.        Use as claimed in claim 2 wherein R<sub>a</sub> is hydrogen, a linear or branched, substituted or unsubstituted C<sub>1</sub>-C<sub>6</sub> alkyl or the group R<sub>a</sub>, the nitrogen atom to which group  
10        R<sub>a</sub> is bound, the carbon atom of Ring (1) to which the N-R<sub>a</sub> nitrogen atom is bound, and one carbon atom of Ring (1) adjacent to the carbon atom of Ring (1) to which the N-R<sub>a</sub> nitrogen atom is bound may form Ring (7) wherein Ring (7) is a substituted or unsubstituted, saturated, unsaturated or aromatic 4-, 5- or 6- membered ring that contains carbon atoms, the N-R<sub>a</sub> nitrogen atom and optionally one further heteroatom chosen from  
15        oxygen, sulfur and nitrogen.

4.        Use as claimed in any one preceding claim wherein the amino group -NR<sub>b</sub>R<sub>c</sub> is essentially in a protonated form at a pH of between 6.0 and 8.0.

20        5.        Use as claimed in any one preceding claim wherein the amino group -NR<sub>b</sub>R<sub>c</sub> is essentially in a protonated form at a pH of about 7.

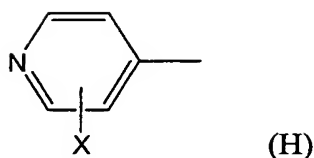
6.        Use as claimed in any one preceding claim wherein the distance between the at least one hydrogen-accepting heteroatom in Ring (1) and the N(R<sub>a</sub>)(R<sub>b</sub>) nitrogen atom, as  
25        determined using a Scatter Plot, is in the range of 11.0 to 11.6 Angstrom.

7.        Use as claimed in any one preceding claim wherein the distance between the at least one hydrogen-accepting heteroatom in Ring (1) and the N(R<sub>a</sub>)(R<sub>b</sub>) nitrogen atom, as  
30        determined using a Scatter Plot, is in the range of 11.0 to 11.4 Angstrom.

8.        Use as claimed in any one preceding claim wherein the at least one hydrogen-accepting heteroatom in Ring (1) is a nitrogen atom.

9.        Use as claimed in any one preceding claim wherein Ring (1)- is of formula (H):

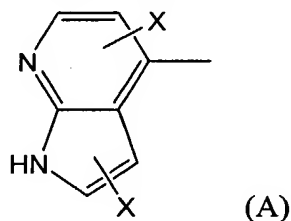
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wherein -X may be absent or denotes substitution with 1-4 substituents X that are independently chosen from halogen, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, substituted or unsubstituted aryl, nitro, hydroxyl and a substituted or unsubstituted amino group.

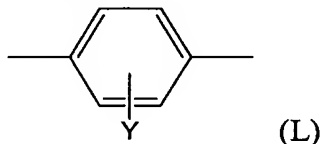
10. Use as claimed in claim 9 wherein -X denotes substitution with 1 or 2 substituents X.

10 11. Use as claimed in any one of claims 1 to 10 wherein Ring (1)- is of formula (A):



wherein, independently in each ring shown in Formula V, -X may be absent or denotes substitution with 1 or 2 substituents X that are independently chosen from halogen, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, substituted or unsubstituted aryl, nitro, hydroxy and a substituted or unsubstituted amino group.

12. Use as claimed in any one preceding claim wherein -Ring (3)- is the group (L):



wherein -Y may be absent or denotes substitution with 1-4 substituents Y that are independently chosen from halogen, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, substituted or unsubstituted aryl, nitro, hydroxy and an amino group.

13. Use as claimed in claim 12 wherein -Y denotes substitution with 1 or 2 substituents Y.

14. Use as claimed in any one preceding claim wherein:

n=1;

one of R<sub>1</sub> or R<sub>2</sub> is hydrogen and the other one is chosen from the group consisting of: hydrogen, substituted or unsubstituted, saturated, unsaturated or aromatic, 3-, 4-, 5-, 6-, 7- or 8- membered ring containing carbon atoms and optionally one or two heteroatoms, cyano, substituted or unsubstituted C<sub>1</sub>-C<sub>6</sub> alkyl;

one of R<sub>b</sub> and R<sub>c</sub> is hydrogen and the other one is chosen from the group consisting of hydrogen, substituted or unsubstituted C<sub>1</sub>-C<sub>10</sub> alkyl;

where Ring (3) is a 1,4-phenylene group, one of R<sub>1</sub> and R<sub>2</sub>, the carbon atom to which R<sub>1</sub> and R<sub>2</sub> are bound and two of the carbon atoms belonging to the 1,4-phenylene group may form a substituted or unsubstituted 5-, 6-, 7- or 8- membered ring that contains carbon atoms, the nitrogen atom of the amino group NR<sub>b</sub>R<sub>c</sub> and optionally one further heteroatom chosen from oxygen, sulfur and nitrogen and that may be saturated or contain one double bond; and

where Ring (3) is a 1,4-phenylene group, one of R<sub>b</sub> or R<sub>c</sub>, the nitrogen atom to which R<sub>b</sub> or R<sub>c</sub> are bound, the carbon atom to which R<sub>1</sub> or R<sub>2</sub> are bound and two of the carbon atoms belonging to the 1,4-phenylene group may form a substituted or unsubstituted 5-, 6-, 7- or 8- membered ring that contains carbon atoms, the nitrogen atom of the amino group -NR<sub>b</sub>R<sub>c</sub> and optionally one further heteroatom chosen from oxygen, sulfur and nitrogen and that may be saturated or contain one double bond.

15. Use as claimed in claim 14 wherein one of R<sub>1</sub> or R<sub>2</sub> is hydrogen and the other one is substituted or unsubstituted aryl.

16. Use as claimed in claim 14 or claim 15 wherein both R<sub>b</sub> and R<sub>c</sub> are hydrogen.

17. Use as claimed in claim 1 wherein said compound is chosen from the group comprising (R)-(+)-*trans*-N-(4-pyridyl)-4-(1-aminoethyl)-cyclohexanecarboxamide; *trans*-4-aminomethyl-cyclohexanecarboxylic acid pyridin-4-ylamide; 4-aminomethyl-N-pyridin-4-yl-benzamide; 4-aminomethyl-N-pyrimidin-4-yl-benzamide; 5-(1-amino-ethyl)-thiophene-2-carboxylic acid pyridin-4-ylamide; 4-(1-amino-ethyl)-N-pyridin-4-yl-benzamide; 4-(1-amino-propyl)-N-pyridin-4-yl-benzamide; 4-(1-amino-3,3-dimethyl-butyl)-N-pyridin-4-yl-benzamide; 4-(1-amino-cyclopropyl-ethyl)-N-pyridin-4-yl-benzamide; 4-(1-amino-cyclopentyl-methyl)-N-pyridin-4-yl-benzamide; 4-(1-amino-

cyclohexyl-methyl)-*N*-pyridin-4-yl-benzamide; 1,2,3,4-tetrahydro-isoquinoline-6-carboxy-pyridin-4-yl-amide; *N*-pyridin-4-yl-4-pyrrolidin-2-yl-benzamide; 4-piperidin-2-yl-*N*-pyridin-4-yl-benzamide; 1,2,3,4-tetrahydro-isoquinoline-6-carboxylic acid pyridin-4-yl-amide; 4-(4,5-dihydro-1*H*-imidazol-2-yl)-*N*-pyridin-4-yl-benzamide; *N*-pyridin-4-yl-4-(1,4,5,6-tetrahydro-1*H*-pyrimidin-2-yl)-benzamide; 4-(1-amino-phenyl-methyl)-*N*-pyridin-4-yl-benzamide; 4-[1-amino-(4-fluorophenyl)-methyl]-*N*-pyridin-4-yl-benzamide; 4-[1-amino-(4-methoxyphenyl)-methyl]-*N*-pyridin-4-yl-benzamide; 4-(1-amino-ethyl)-naphthalene-1-carboxylic acid pyridin-4-ylamide; 4-aminomethyl-2,5-dimethyl-*N*-pyridin-4-yl-benzamide; 5-(1-amino-ethyl)-thiophene-2-carboxylic acid *N*-(1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-benzamide; 4-(1-amino-ethyl)-*N*-(1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-benzamide; 4-(1-amino-cyclopentyl-ethyl)-*N*-(1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-benzamide; 1,2,3,4-tetrahydro-isoquinoline-6-carboxylic acid -*N*-(1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-benzamide; 4-piperidin-2-yl-*N*-(1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-benzamide; 4-(1-amino-cyclobutyl-ethyl)-*N*-pyridin-4-yl-benzamide; 4-(1-amino-2,2-dimethyl-butyl)-*N*-pyridin-4-yl-benzamide; 1-amino-indan-5-carboxylic acid pyridin-4-yl-amide; 4-(1-amino-butyl)-*N*-pyridin-4-yl-benzamide; 4-(1-amino-pentyl)-*N*-pyridin-4-yl-benzamide; 4-(1-amino-2-methyl-propyl)-*N*-pyridin-4-yl-benzamide; 4-(1-amino-2,2-dimethyl-propyl)-*N*-pyridin-4-yl-benzamide; 4-(1-amino-propyl)-*N*-(1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-benzamide; 4-(1-amino-cyclopropyl-ethyl)-*N*-(1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-benzamide; 4-(1-amino-cyclobutyl-ethyl)-*N*-(1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-benzamide; 4-(1-amino-2,2-dimethyl-butyl)-*N*-(1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-benzamide; 1-amino-indan-5-carboxylic acid (1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-amide; 5-amino-5,6,7,8-tetrahydro-naphthalene-2-carboxylic acid (1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-amide; 4-(1-amino-butyl)-*N*-(1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-benzamide and 4-(1-amino-2,2-dimethyl-propyl)-*N*-(1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-benzamide.

18. Use as claimed in claim 1 wherein said compound is chosen from the group comprising 4-(1-amino-ethyl)-*N*-pyridin-4-yl-benzamide; 4-(1-amino-propyl)-*N*-pyridin-4-yl-benzamide; 4-(1-amino-3,3-dimethyl-butyl)-*N*-pyridin-4-yl-benzamide; 4-(1-amino-cyclopropyl-ethyl)-*N*-pyridin-4-yl-benzamide; 4-(1-amino-cyclopentyl-methyl)-*N*-pyridin-4-yl-benzamide; 4-(1-amino-cyclohexyl-methyl)-*N*-pyridin-4-yl-benzamide; 1,2,3,4-tetrahydro-isoquinoline-6-carboxy-pyridin-4-yl-amide; *N*-pyridin-4-yl-4-pyrrolidin-2-yl-benzamide; 4-piperidin-2-yl-*N*-pyridin-4-yl-benzamide; 4-(1-amino-phenyl-methyl)-*N*-pyridin-4-yl-benzamide; 4-[1-amino-(4-fluorophenyl)-methyl]-*N*-

pyridin-4-yl-benzamide; 4-(1-amino-ethyl)-naphthalene-1-carboxylic acid pyridin-4-ylamide; 4-aminomethyl-2,5-dimethyl-*N*-pyridin-4-yl-benzamide; 5-(1-amino-ethyl)-thiophene-2-carboxylic acid *N*-(1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-benzamide; 4-(1-amino-ethyl)-*N*-(1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-benzamide; 4-(1-amino-cyclopentyl-ethyl)-*N*-(1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-benzamide; 1,2,3,4-tetrahydro-isoquinoline-6-carboxylic acid -*N*-(1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-benzamide; 4-piperidin-2-yl-*N*-(1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-benzamide; 4-(1-amino-cyclobutyl-ethyl)-*N*-pyridin-4-yl-benzamide; 4-(1-amino-2,2-dimethyl-butyl)-*N*-pyridin-4-yl-benzamide; 1-amino-indan-5-carboxylic acid pyridin-4-yl-amide; 4-(1-amino-butyl)-*N*-pyridin-4-yl-benzamide; 4-(1-amino-pentyl)-*N*-pyridin-4-yl-benzamide; 4-(1-amino-2-methyl-propyl)-*N*-pyridin-4-yl-benzamide; 4-(1-amino-2,2-dimethyl-propyl)-*N*-pyridin-4-yl-benzamide; 4-(1-amino-propyl)-*N*-(1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-benzamide; 4-(1-amino-cyclopropyl-ethyl)-*N*-(1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-benzamide; 4-(1-amino-cyclobutyl-ethyl)-*N*-(1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-benzamide; 4-(1-amino-2,2-dimethyl-butyl)-*N*-(1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-benzamide; 1-amino-indan-5-carboxylic acid (1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-amide; 5-amino-5,6,7,8-tetrahydro-naphthalene-2-carboxylic acid (1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-amide; 4-(1-amino-butyl)-*N*-(1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-benzamide and 4-(1-amino-2,2-dimethyl-propyl)-*N*-(1*H*-pyrrolo[2,3-*b*]pyridin-4-yl)-benzamide.

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19. Use according to any one preceding claim wherein said use is *in vitro*.

20. Use according to any one preceding claim wherein the at least one kinase is chosen from the isoforms of Protein Kinase C.

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21. Use according to claim 20 in which the at least one kinase is chosen from the calcium-independent, but diacylglycerol- and/or phorbol ester-sensitive isoforms of PKC.

22. Use according to claim 21 in which the at least one kinase is chosen from the epsilon and/or theta isoforms of Protein Kinase C.

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23. Use of a compound as defined in any of claims 1 to 18 in the preparation of a medicament for the prevention and/or treatment of at least one disease and/or disorder selected from the group comprising metabolic diseases, anxiety, addiction, withdrawal

symptoms, muscle spasms, convulsive seizures, epilepsy, pain, cardiovascular disease and heart disease; and/or for regulating the immune system and/or an immune response and/or inflammatory response in a mammal.

- 5     24.     Use according to claim 23 wherein said metabolic disease or disorder is at least one of the following:

hyperglycemic conditions and/or other conditions and/or diseases that are (primarily) associated with (the response or sensitivity to) insulin, such as Type I and Type II diabetes, severe insulin resistance, hyperinsulinemia, hyperlipidemia, and insulin-  
10     resistant diabetes, such as Mendenhall's Syndrome, Werner Syndrome, leprechaunism and lipoatrophic diabetes, and other lipoatrophies;

obesity;

conditions caused or usually associated with hyperglycemic conditions and/or obesity, such as hypertension, osteoporosis and/or lipodystrophy; or

- 15     metabolic syndrome;

as well as various inherited metabolic diseases known per se; and may also be used also for preventing, treating and/or alleviating complications and/or symptoms associated with these metabolic diseases.

- 20     25.     Use of a compound as defined in any of claims 1 to 18 for the preparation of a medicament for the prevention and/or treatment of type II diabetes, and/or for preventing, treating and/or alleviating complications and/or symptoms associated therewith.

- 25     26.     Use of a compound as defined in any of claims 1 to 18 for the preparation of a medicament for the prevention and/or treatment of obesity, and/or for preventing, treating and/or alleviating complications and/or symptoms associated therewith.

- 30     27.     Use of a compound as defined in any of claims 1 to 18 for the preparation of a medicament for the prevention, treatment and/or management of pain, and/or for preventing, treating and/or alleviating complications and/or symptoms associated therewith.

28.     A pharmaceutical and/or veterinary composition containing a compound as defined in any of claims 1 to 18.



29. A pharmaceutical and/or veterinary composition as claimed in claim 28 comprising at least one compound according to any one of claims 1 to 18 and at least one carrier, excipient or diluent acceptable for pharmaceutical and/or veterinary purposes.

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30. A compound as defined in any one of claims 1 to 18 for use in human or veterinary medicine.

31. A compound as defined in any one of claims 1 to 18.

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